

20



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,198	12/04/2003	Sze Bun Brian Chan	136388	7969

7590

02/17/2005

John S. Beulick  
Armstrong Teasdale LLP  
Suite 2600  
One Metropolitan Square  
St. Louis, MO 63102

EXAMINER

NGUYEN, NINH H

ART UNIT PAPER NUMBER

3745

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/728,198	<b>Applicant(s)</b> BRIAN CHAN ET AL.	
	<b>Examiner</b> Ninh H. Nguyen	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 13, 14 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-6, 8-12, 15-19 and 21-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/04/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 7, 14, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Smuland (3,628,880).

Smuland discloses a turbine nozzle segment (Figs. 1-4) comprising an outer band portion 14; an inner band portion 12; at least one nozzle vane 26 extending between the inner band portion and the outer band portion, the at least one nozzle vane, the inner band portion, and the outer band portion defining a flowpath for flowing hot gases of combustion; and at least one cooling channel 54 extending axially at least partially through the inner band portion, each cooling channel comprising at least one inlet, each inlet isolated from the flowing hot gases of combustion (Fig. 3);

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3745

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smuland in view of Lee (6,142,734).

Smuland discloses all the limitations except the at least cooling channel does not comprise a turbulator as claimed.

Lee teaches a nozzle vane segment (Figs. 2, 3) comprising an inner band, an outer band, an airfoil portion 22 connecting the inner and outer bands, a plurality of cooling passages inside the airfoil portion, wherein the inner surfaces of the passages comprising turbulators to increase cooling efficiency (col. 1, lines 50-59).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the turbine nozzle segment of Smuland with the inner surface of the cooling channel comprising turbulators for the purpose of improving cooling efficiency as taught by Lee.

***Allowable Subject Matter***

5. Claims 2-5, 8-11, 25-18, and 21-24, due to the limitation of the cooling channel located between the seal slot and the hot gas flow path, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 6, 12, 19, and 25, due to the limitation of the cooling channel is defined by an undercut region, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 1 patent.

Walker (5,197,852) is cited to show a turbine nozzle vane having axial cooling passage in the inner band.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is 703-872-9306.

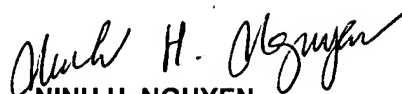
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 10/728,198

Page 5

Art Unit: 3745

system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).

  
NINH H. NGUYEN  
PRIMARY EXAMINER

Nhn  
February 16, 2005